

AMENDMENTS TO THE CLAIMS

Please amend the claims as follows. A clean copy of the claims is attached.

1. (Cancelled)
2. (Currently Amended) ~~A~~The rotating electrical machine ~~comprising; according to Claim 1,~~
a rear bearing;
a rotor centered and mounted on a rotating shaft supported by at least the rear bearing,
the rear bearing comprising radial outlets for a cooling fluid;
a stator surrounding the rotor, the stator comprising a field coil that has windings forming
the phases of the electrical machine;
a power electronics circuit connected to the windings of the stator phases;
a heat dissipating bridge that has a first surface on which the power electronics circuit is
mounted and a second surface, opposite said first surface and oriented toward the
rear bearing;
wherein said second surface forms a wall for a radial flow passageway for the flow of
cooling fluid, and another wall for the radial flow passageway is formed by the
rear bearing supporting the rotor;
wherein the second surface of the heat dissipating bridge has cooling means arranged in
the fluid flow passageway; and
~~characterized in that~~wherein the cooling means ~~[[(18)]]~~ are arranged radially in the
direction of the cooling fluid flow.
3. (Currently Amended) The rotating electrical machine according to Claim 2, ~~characterized in~~
~~that~~wherein the cooling means include cooling fins ~~[[(18)]]~~.
4. (Currently Amended) The machine according to Claim 3, ~~characterized in that~~wherein the
cooling fins ~~[[(18)]]~~ form radially oriented cooling channels.
5. (Currently Amended) The rotating electrical machine according to Claim 2, ~~characterized in~~
~~that~~wherein the cooling means have columns ~~(281, 282, 481, 381, 481, 581, 681).~~
6. (Currently Amended) The machine according to Claim 5, ~~characterized in that~~wherein the
cooling means ~~[[are]]~~ comprise~~[[d of]]~~ fins and columns.

7. (Currently Amended) The machine according to Claim 5, ~~characterized in that~~ somewherein at least a plurality of the columns [[681]] form contacts for mounting ~~contacts~~ the heat dissipating bridge [[16]] to the rear bearing [[4]].
8. (Currently Amended) The rotating electrical machine according to Claim 2, ~~characterized in that~~ wherein the cooling means are formed with at least one cambered portion [[280]] of the second surface of the heat dissipating bridge.
9. (Currently Amended) ~~A~~ The rotating electrical machine comprising: ~~according to Claim 1,~~
a rear bearing;
a rotor centered and mounted on a rotating shaft supported by at least the rear bearing,
the rear bearing comprising radial outlets for a cooling fluid;
a stator surrounding the rotor, the stator comprising a field coil that has windings forming
the phases of the electrical machine;
a power electronics circuit connected to the windings of the stator phases;
a heat dissipating bridge that has a first surface on which the power electronics circuit is
mounted and a second surface, opposite said first surface and oriented toward the
rear bearing;
wherein said second surface forms a wall for a radial flow passageway for the flow of
cooling fluid, and another wall for the radial flow passageway is formed by the
rear bearing supporting the rotor;
wherein the second surface of the heat dissipating bridge has cooling means arranged in
the fluid flow passageway; and
~~characterized in that~~ wherein the rear bearing has a bottom [[40]] that forms one of the
walls of the [[fluid]] radial flow passageway [[17]], ~~in that this~~ wherein the
bottom [[40]] is extended to its external periphery by an edge [[41]] equipped
with lateral outlets [[4a-4d]] and ~~in that~~ wherein the rear bearing holds at least
one deflector [[24]] placed at the exit of the lateral outlets [[4a-4d]] of the
edge [[41]] of the rear bearing [[4]].
10. (Currently Amended) The rotating electrical machine according to Claim 8, ~~characterized in that~~ wherein it has a protective hollow cover [[11]] covering the power electronics circuit

[[15]] and the heat dissipating bridge [[16]] and ~~in that~~ the deflector [[24]] are formed at the free end of the cover [[11]].

11. (Currently Amended) The rotating electrical machine according to Claim 9, ~~characterized in that~~ wherein a free end [[24]] of the cover [[11]] is flared to form the deflector.
12. (Currently Amended) The rotating electrical machine according to Claim 9, ~~characterized in that~~ wherein the protective cover [[11]] has at least one opening [[19]] that communicates with the cooling fluid flow passageway [[17]].
13. (Currently Amended) The rotating electrical machine according to Claim [[1]]2, ~~characterized in that it has~~ wherein at least one space is provided between the rotating shaft of the rotor and the heat dissipating bridge forming an axial fluid flow passageway.
14. (Currently Amended) The rotating electrical machine according to Claim [[1]]2, ~~characterized in that~~ wherein the second surface of the heat dissipating bridge (16) ~~forms a mezzanine~~ comprises a planar surface disposed above the rear bearing [[4]].
15. (Currently Amended) The rotating electrical machine according to Claim 8, ~~characterized in that~~ wherein the heat dissipating bridge is mounted on the rear bearing [[4]] with mounting braces [[20]].
16. (Currently Amended) The rotating electrical machine according to Claim 14, ~~characterized in that~~ wherein the heat dissipating bridge is mounted above the rear bearing with contacts [[21]] integrated in the heat dissipating bridge.
17. (Currently Amended) The rotating electrical machine according to Claim [[1]]2, ~~characterized in that it comprises~~ further comprising [[of]] a layer of electrically insulating material disposed between the heat dissipating bridge and the rear bearing.
18. (Currently Amended) The rotating electrical machine according to Claim 3, ~~characterized in that~~ wherein the axial end of the fins integrated in the heat dissipating bridge are located ~~away from~~ separate from the rear bearing.

19. (Currently Amended) The rotating electrical machine according to Claim [[1]]2, ~~characterized in that~~wherein the heat dissipating bridge, comprising the cooling means, and the bridge carrying the power electronics circuit are a single piece.
20. (Currently Amended) The rotating electrical machine according to Claim [[1]]2, ~~characterized in that~~wherein the power electronics circuit [[(15)]] comprises power components placed on tracks [[(25)]].
21. (Currently Amended) The rotating electrical machine according to Claim [[1]]2, ~~characterized in that it comprises~~further comprising a reversible alternator.